

Biology 2217B Course Outline - 2025

1. Course Information

Course Information

Biology 2217B, *Economic Botany*, Winter 2025

Lectures: Two hours per week

Labs and tutorials (alternating weeks)

List of Prerequisites

Either Biology 1001A or Biology 1201A and either Biology 1002B or Biology 1202B or Integrated Science 1001X; or registration in Foods and Nutrition modules.

Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course, and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

2. Instructor Information

Instructor: Dr. Ben Rubin, Department of Biology brubin2@uwo.ca

Office hours: Wednesdays 12:30 – 1:30 PM or by appointment.

Teachings assistants:

Tutorial – Jessica Sinka jsinka2@uwo.ca

Lab (sections 002, 003) – Kathryn Lamoureux klamour2@uwo.ca

Lab (sections 004, 007) – Eric Fordjour efordjo@uwo.ca

Students must use their Western (@uwo.ca) email addresses when contacting their instructors.

3. Course Syllabus, Schedule, Delivery Mode

Description: An introduction to economically important plants and their products, especially as sources of food, fuel, drugs and industrial raw materials. This course looks at the properties of plants that make them economically important, including their physiology, life history, and ecology. It also introduces ways in which humans measure the economic value of plants.

Course Learning Outcomes

At the end of this course, successful students will be able to:

1. Describe important biological features that make some plants economically important in terms of plant physiology, life cycles, and ecology
2. Explain essential benefits and costs that plants provide for human society, including food, materials, drugs, decomposition, and environmental degradation
3. Interpret estimates of the economic value of plants by describing in basic terms how such valuations are derived and which factors they include and exclude

Tentative Schedule

Week	Lecture Topics	Labs	Tutorials
Jan 7 – 9	Course introduction & Plant adaptations; Plant evolution	No labs	No tutorials
Jan 13 – 16	Plant organs and tissues; Flowers and fruits	Lab 1: Plant evolution & diversity	No tutorials
Jan 20 – 23	Origins of agriculture, Potato, Plant disease	No labs	Tut 1: Topic
Jan 27 – 30	Cotton & Integrated pest management, Beans & Forage crops	Lab 2: Plant reproduction	No tutorials
Feb 3 – 6	Wheat & The Green Revolution, Corn & Photosynthetic pathways	No labs	Tut 2: Botany
Feb 10 – 13	Rice & Genetic engineering, Banana & CRISPR	Lab 3: Grasses	No tutorials
Reading Week			
Feb 27	MIDTERM: IN CLASS: 11:30 – 12:30		
Feb 24 – 27	Wood structure and decay	No labs	Tut 3: Economics
Mar 4 – 6	Forestry; Rubber	Lab 4: Fibre & vascular tissue	No tutorials
Mar 10 – 13	Plant secondary metabolites; Coffee and stimulants	No labs	Tut 4: Infographic
Mar 17 – 20	Plants as medicine; Cannabis	Lab 5: Secondary metabolites	No tutorials
Mar 24 – 27	Spices; Sugar, slavery & economics	No labs	Tut 5: Presentation
Apr 1 – 3	Alcohol	No labs	No tutorials

Midterm exam: Covers lectures, readings & labs from before reading week. Make-up midterm Wednesday, March 5, from 5:30 – 6:20 PM.

Contingency plan

Although the intent is for this course to be delivered in person, should any university-declared emergency require some or all of the course to be delivered online, either synchronously or asynchronously, the course will adapt accordingly. The grading scheme will **not** change. Any assessments affected will be conducted online as determined by the course instructor.

4. Course Materials

We will use two textbooks. Digital versions of both are available from [Western Libraries](#):

- Main lecture textbook: Mauseth, James D. 2017. *Botany: An Introduction to Plant Biology* (Sixth Edition). Jones and Bartlett Learning. Burlington, MA, USA
- Lab textbook: Glimn-Lacy, Janice and Peter Kaufman. 2006. *Botany Illustrated: Introduction to Plants, Major Groups, Flowering Plant Families* (Second Edition). Springer. New York, NY, USA

Students will need to either print lab assignments and bring them to lab or bring a device to lab to complete the assignments digitally.

Students are responsible for checking the OWL Brightspace on a regular basis for news and updates. This is the primary method by which information will be disseminated to all students in the class.

All course material will be posted to OWL: <http://owl.uwo.ca>.

If students need assistance with the course OWL site, they can seek support on the OWL Help page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

Technical Requirements

Should this course need to pivot to online delivery, participants will need access to a stable internet connection and a computer with a working microphone and webcam.

5. Methods of Evaluation

The overall course grade will be calculated as listed below:

Course element	Weight
Tutorial Assignments* (top four @ 4% each, lowest mark is dropped)	16%
Lab Assignments* (top four @ 5% each, lowest total lab mark (assignment and quiz combined) is dropped)	20%
Pre-lab quizzes* (top four @ 1% each, lowest total lab mark (assignment and quiz combined) is dropped)	4%
Midterm Exam: Ineligible for undocumented absence reports	20%
Final Exam (Cumulative – all lectures and labs)	40%

* Labs and tutorials are essential elements of this course. To pass the course, you must attend and participate in at least three of the five labs and three of the five tutorials. You must also have a passing grade in each element (at least 12/24 in lab and at least 8/16 in tutorial). Students who do not pass one or both of these elements but who would otherwise have a calculated grade above 45% will be assigned a grade of 45%. Students will not be penalized for failing to meet a requirement due to circumstances beyond their control. For example, if illness causes you to miss too many classes or field trips due to receive course credit, you will have the opportunity to complete those activities with the next offering of the course. In such a case, you will receive a grade of Incomplete (INC), and your maximum course load may be reduced during the term in which you complete the course requirements.

6. Student Absences

If you miss lectures, labs or tutorials, it is your responsibility to make sure that you learn the material covered anyway. You can do this by viewing material posted on OWL, reading relevant sections of the textbooks and other sources listed in the notes, and asking a classmate for their notes. After making your best effort to catch up, you may ask specific questions during office hours. However, you should not expect the instructor or TA to repeat large portions of the material covered.

To obtain accommodation for missed elements, here is what you should do:

Element missed	Is documentation required?	Accommodation available
Lecture	No	None
One lab	No	None. Your lowest lab mark does not count toward your grade
Two labs	Yes	Upon your Counsellor's recommendation, the weight of the missed lab activities will be equally allocated to the three labs completed
Three or more labs	Yes	Upon your Counsellor's recommendation, you will receive a grade of incomplete in the course and be allowed to make up the missed labs the next time the course is offered
One tutorial	No	None. Your lowest tutorial mark does not count toward your grade
Two tutorials	Yes	Upon your Counsellor's recommendation, the weight of the missed tutorial assignments will be equally allocated to the three tutorials you completed
Three or more tutorials	Yes	Upon your Counsellor's recommendation, you will be allowed to complete the missed tutorial assignments on your own (without group partners). Contact Dr. Rubin to arrange a suitable deadline.
Midterm exam	Yes	Upon your Counsellor's recommendation, you will be allowed to write a make-up midterm (March 5 from 5:30 - 6:20 PM)
Make-up midterm exam	Yes	Upon your Counsellor's recommendation, the weight of the midterm will be shifted to the final exam

For further information, please consult the University's medical illness policy at

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf.

The Student Medical Certificate is available at

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf.

Absences from Final Examinations

If you miss the Final Exam, please contact the Academic Counselling office of your Faculty of Registration as soon as you are able to do so. They will assess your eligibility to write the Special Examination (the name given by the University to a makeup Final Exam).

You may also be eligible to write the Special Exam if you are in a “Multiple Exam Situation” (e.g., more than 2 exams in 23-hour period, more than 3 exams in a 47-hour period).

7. Accommodation and Accessibility

Religious Accommodation

When a course requirement conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request accommodation for their absence in writing at least two weeks prior to the holiday to the course instructor and/or the Academic Counselling office of their Faculty of Registration. Please consult University's list of recognized religious holidays (updated annually) at

<https://multiculturalcalendar.com/ecal/index.php?s=c-univwo>.

Accommodation Policies

Students with disabilities are encouraged to contact Accessible Education, which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on Academic Accommodation for Students with Disabilities can be found at:

[https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic Accommodation_disabilities.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf).

8. Academic Policies

The website for Registrarial Services is <http://www.registrar.uwo.ca>.

In accordance with policy,

https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp113.pdf,

the centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at their official university address is attended to in a timely manner.

All examinations and quizzes are closed-book, to be completed individually and electronic devices are not permitted.

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

Computer-marked multiple-choice tests and exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

9. Support Services

Please visit the Science & Basic Medical Sciences Academic Counselling webpage for information on adding/dropping courses, academic considerations for absences, appeals, exam conflicts, and many other academic related matters: <https://www.uwo.ca/sci/counselling/>.

Students who are in emotional/mental distress should refer to Mental Health@Western (<https://uwo.ca/health/>) for a complete list of options about how to obtain help.

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at https://www.uwo.ca/health/student_support/survivor_support/get-help.html.

To connect with a case manager or set up an appointment, please contact support@uwo.ca.

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Accessible Education at http://academicsupport.uwo.ca/accessible_education/index.html

if you have any questions regarding accommodations.

Learning-skills counsellors at the Student Development Centre (<https://learning.uwo.ca>) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

Western University is committed to a thriving campus as we deliver our courses in the mixed model of both virtual and face-to-face formats. We encourage you to check out the Digital Student Experience website to manage your academics and well-being: <https://www.uwo.ca/se/digital/>.

Additional student-run support services are offered by the USC, <https://westernusc.ca/services/>.

10. Equity, Diversity, Inclusion, and Decolonization

Land Acknowledgement: We acknowledge that Western University is located on the traditional lands of the Anishinaabek, Haudenosaunee, Lūnaapéewak, and Chonnonton Nations, on lands connected with the London Township and Sombra Treaties of 1796 and the Dish with One Spoon Covenant Wampum. This land continues to be home to diverse Indigenous peoples (First Nations, Métis and Inuit) whom we recognize as contemporary stewards of the land and vital contributors of our society. Throughout Canada, North America, and the world, Indigenous Peoples are vital contributors to their communities, and we greatly value their presence, knowledge, and wisdom.